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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/331,723	08/18/99	BOYNTON	J 2185-156PCT

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EXAMINER

MEHTA, A

ART UNIT

PAPER NUMBER

1638

DATE MAILED:

04/25/01 *IK*

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/331,723

Applicant(s)

BOYNTON ET AL.

Examiner

Ashwin Mehta

Art Unit

1638

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 August 1999.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claims 1-40 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☐ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 18) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other: _____

Art Unit: 1638

Election/Restrictions

1. Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in response to this action, to elect a single invention to which the claims must be restricted.

Group I, claim(s) 1-21 and 24, drawn to a method of conferring resistance to protoporphyrinogen oxidase-inhibiting herbicides upon plants or plant cells; DNA encoding a protein having protoporphyrinogen oxidase activity, said DNA hybridizing to a nucleic acid sequence homologous to nucleic acid encoding SEQ ID NOs: 1, 2, or 3, or said DNA encoding a protein in which Val 13 of said SEQ ID NOs is replaced with another amino acid, and said DNA fragment having the ability to confer resistance to protoporphyrinogen-oxidase inhibiting herbicides to plant or algal cells expressing it.

Group II, claim(s) 22 and 23, drawn to a DNA isolated from *Chlamydomonas* and encoding a protein, SEQ ID NO: 4, having protoporphyrinogen oxidase activity, and wherein a nucleotide in the sequence encoding SEQ ID NO: 4, guanine at position 37, is replaced with another nucleotide.

Group III, claim(s) 25-40, drawn to a microorganism harboring a plasmid comprising a DNA encoding a protein having protoporphyrinogen oxidase activity and having the ability to confer resistance to protoporphyrinogen-oxidase inhibiting herbicides; a method of evaluating the

Art Unit: 1638

inhibitory effect of a compound on protoporphyrinogen oxidase, comprising culturing in the presence of a test compound microorganisms sensitive and resistant to protoporphyrinogen inhibitors.

2. The inventions listed as Groups I-III do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: Group I does not share the DNA sequences or methods with the DNA of Group II. Group I does not share the method of conferring resistance to protoporphyrinogen-inhibiting herbicides to plants with Group III. The DNA of Group II is not shared with the DNA and methods of the other groups. The method and microorganisms of Group III are not shared with the DNA and methods of the other groups.

3. Applicants are reminded that nucleotide sequences encoding different proteins are structurally distinct chemical compounds and are unrelated to one another. These sequences are thus deemed to normally constitute **independent and distinct** inventions within the meaning of 35 U.S.C. 121. Absent evidence to the contrary, each such nucleotide sequence is presumed to represent an independent and distinct invention, subject to a restriction requirement pursuant to 35 U.S.C. 121 and 37 CFR 1.141 et seq.

Upon election of a Group above, Applicant is additionally required to select a single nucleotide sequence and corresponding amino acid sequence for said Group. This requirement is not to be construed as a requirement for an election of species, since each nucleotide and amino

Art Unit: 1638

acid sequence is not a member of single genus of invention, but constitutes an independent and patentably distinct invention.

Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

4. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a petition under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(I).

CLOSING REMARKS

Any inquiry concerning this communication should be directed to Examiner Ashwin Mehta, whose telephone number is (703) 306-4540. The Examiner can normally be reached Monday-Thursday and alternate Fridays, from 8:00 A.M. - 5:30 P.M. The fax phone number for the group is (703) 305-3014. If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Paula Hutzell, can be reached at (703) 308-4310. Any inquiry of a general nature or relating to the status of the application should be directed to the art unit's Patent Analyst, Gwendolyn Payne, whose telephone number is (703) 305-2475.

Ashwin D. Mehta

April 24, 2001


ASHWIN D. MEHTA, PH.D
PATENT EXAMINER